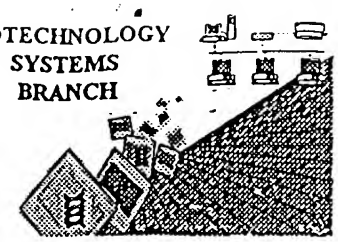
BIOTECHNOLOGY
SYSTEMS
BRANCH



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/823,964
Source: IFW01
Date Processed by STIC: 4/21/07

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 703-308-4212; FAX: 703-308-4221
Effective 12/13/03: TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
http://www.uspto.gov/web/offices/pac/checker/chkr41note.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry directly to (EFFECTIVE 12/01/03):
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. **Federal Express, United Parcel Service, or other delivery service to:** U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 10/08/03

Raw Sequence Listing Error Summary

ERROR DETECTED	SUGGESTED CORRECTION	SERIAL NUMBER: 10/823,964

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1	Wrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
2	Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.
3	Misaligned Amino Numbering	The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
4	Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5	Variable Length	Sequence(s)____contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
6	PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
7	Skipped Sequences (OLD RULES)	Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8	Skipped Sequences (NEW RULES)	Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence: <210> sequence id number <400> sequence id number 000
9	Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
10	Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
11	V Use of <220>	Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
12	PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
13	Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid

IF

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/823,964

DATE: 04/21/2004
TIME: 07:41:49

Input Set : A:\Seqlist.txt
Output Set: N:\CRF4\04212004\J823964.raw

<110> APPLICANT: BAM, NARENDRA
BONGERS, JACOB
KIRKPATRICK, ROBERT B.
JANSON, CHERYL A.
JOHANSON, KYUNG
QIU, XIANYANG
YEH, PING
<120> TITLE OF INVENTION: CONJUGATES COMPRISING HUMAN IL-18 AND SUBSTITUTION MUTANTS THEREOF
<130> FILE REFERENCE: PU60053
-> **<140> CURRENT APPLICATION NUMBER: US/10/823,964**
<141> CURRENT FILING DATE: 2004-04-14
<150> PRIOR APPLICATION NUMBER: 60/462,947
<151> PRIOR FILING DATE: 2003-04-15
<160> NUMBER OF SEQ ID NOS: 28
<170> SOFTWARE: FastSEQ for Windows Version 4.0

Does Not Comply
Corrected Diskette Needed
(pg. 3-6)

<210> SEQ ID NO: 1
<211> LENGTH: 157
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 1

```
Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 1               5                  10                  15
Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
            20                  25                  30
Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
        35                  40                  45
Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
    50                  55                  60
Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
65                  70                  75                  80
Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
                85                  90                  95
Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
            100                 105                 110
Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
        115                 120                 125
Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
    130                 135                 140
Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
145                 150                 155
```

<210> SEQ ID NO: 2
<211> LENGTH: 157

RAW SEQUENCE LISTING DATE: 04/21/2004
PATENT APPLICATION: US/10/823,964 TIME: 07:41:49

Input Set : A:\Seqlist.txt
Output Set: N:\CRF4\04212004\J823964.raw

58 <212> TYPE: PRT
59 <213> ORGANISM: Mus musculus
61 <400> SEQUENCE: 2
62 Asn Phe Gly Arg Leu His Cys Thr Thr Ala Val Ile Arg Asn Ile Asn
63 1 5 10 15
64 Asp Gln Val Leu Phe Val Asp Lys Arg Gln Pro Val Phe Glu Asp Met
65 20 25 30
66 Thr Asp Ile Asp Gln Ser Ala Ser Glu Pro Gln Thr Arg Leu Ile Ile
67 35 40 45
68 Tyr Met Tyr Lys Asp Ser Glu Val Arg Gly Leu Ala Val Thr Leu Ser
69 50 55 60
70 Val Lys Asp Ser Lys Met Ser Thr Leu Ser Cys Lys Asn Lys Ile Ile
71 65 70 75 80
72 Ser Phe Glu Glu Met Asp Pro Pro Glu Asn Ile Asp Asp Ile Gln Ser
73 85 90 95
74 Asp Leu Ile Phe Phe Gln Lys Arg Val Pro Gly His Asn Lys Met Glu
75 100 105 110
76 Phe Glu Ser Ser Leu Tyr Glu Gly His Phe Leu Ala Cys Gln Lys Glu
77 115 120 125
78 Asp Asp Ala Phe Lys Leu Ile Leu Lys Lys Lys Asp Glu Asn Gly Asp
79 130 135 140
80 Lys Ser Val Met Phe Thr Leu Thr Asn Leu His Gln Ser
81 145 150 155
84 <210> SEQ ID NO: 3
85 <211> LENGTH: 203
86 <212> TYPE: PRT
87 <213> ORGANISM: Homo sapiens
89 <400> SEQUENCE: 3
90 Met His His His His His His Thr Arg Gly Met Ala Ala Glu Pro Val
91 1 5 10 15
92 Glu Asp Asn Cys Ile Asn Phe Val Ala Met Lys Phe Ile Asp Asn Thr
93 20 25 30
94 Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn Leu Glu Ser Asp Tyr Phe
95 35 40 45
96 Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn Asp Gln
97 50 55 60
98 Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp Met Thr
99 65 70 75 80
100 Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile Ile Ser
101 85 90 95
102 Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile Ser Val
103 100 105 110
104 Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile Ile Ser
105 115 120 125
106 Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys Ser Asp
107 130 135 140
108 Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys Met Gln
109 145 150 155 160
110 Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu Lys Glu

RAW SEQUENCE LISTING DATE: 04/21/2004
PATENT APPLICATION: US/10/823,964 TIME: 07:41:49

Input Set : A:\Seqlist.txt
Output Set: N:\CRF4\04212004\J823964.raw

```
111                 165                 170                 175
112 Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu Gly Asp
113             180                 185                 190
114 Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
115         195                 200
118 <210> SEQ ID NO: 4
119 <211> LENGTH: 157
120 <212> TYPE: PRT
121 <213> ORGANISM: Artificial Sequence
123 <220> FEATURE:
124 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
125       IL-18 sequence has been replaced with Serine.
127 <400> SEQUENCE: 4
128 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
129  1               5                  10                  15
130 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
131             20                  25                  30
132 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
133         35                  40                  45
134 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
135     50                  55                  60
136 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
137 65                  70                  75                  80
138 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
139                 85                  90                  95
140 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
141             100                 105                 110
142 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
143         115                 120                 125
144 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
145     130                 135                 140
146 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
147 145                 150                 155
150 <210> SEQ ID NO: 5
151 <211> LENGTH: 157
152 <212> TYPE: PRT
153 <213> ORGANISM: Artificial Sequence
155 <220> FEATURE:
156 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
157       IL-18 sequence has been replaced with Serine, the
158       Cysteine at position 68 has been replaced with
159       Aspartic acid, and the Asparagine at position 78
-> 160 <220> <223> has been replaced with Cysteine.
162 <400> SEQUENCE: 5
163 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
164  1               5                  10                  15
165 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
166             20                  25                  30
167 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
```

please explain, please see item #11 on error summary sheet.

Per New sequence rules, please use a MAXIMUM OF 4 lines for <223> explanations.

? ASN is at position 78.

< see pg 4

RAW SEQUENCE LISTING DATE: 04/21/2004
PATENT APPLICATION: **US/10/823,964** TIME: 07:41:49

Input Set : **A:\Seqlist.txt**
Output Set: **N:\CRF4\04212004\J823964.raw**

```
168          35                  40                  45
169 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
170      50                  55                  60
171 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
172 65                  70                  75                  80
173 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
174                 85                  90                  95
175 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
176             100                 105                 110
177 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
178         115                 120                 125
179 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
180     130                 135                 140
181 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
182 145                 150                 155
185 <210> SEQ ID NO: 6
186 <211> LENGTH: 157
187 <212> TYPE: PRT
188 <213> ORGANISM: Artificial Sequence
190 <220> FEATURE:
191 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
192       IL-18 sequence has been replaced with Serine, the
193       Cysteine at position 68 has been replaced with
194       Aspartic acid, and the Glutamic acid at position
-> 195 121 has been replaced with Cysteine.
197 <400> SEQUENCE: 6
198 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
199  1               5                  10                  15
200 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
201             20                  25                  30
202 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
203         35                  40                  45
204 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
205     50                  55                  60
206 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
207 65                  70                  75                  80
208 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
209                 85                  90                  95
210 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
211             100                 105                 110
212 Met Gln Phe Glu Ser Ser Ser Tyr Cys Gly Tyr Phe Leu Ala Cys Glu
213         115                 120                 125
214 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
215     130                 135                 140
216 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
217 145                 150                 155
220 <210> SEQ ID NO: 7
221 <211> LENGTH: 157
222 <212> TYPE: PRT
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RAW SEQUENCE LISTING DATE: 04/21/2004
PATENT APPLICATION: **US/10/823,964** TIME: 07:41:49

Input Set : **A:\Seqlist.txt**
Output Set: **N:\CRF4\04212004\J823964.raw**

```
223 <213> ORGANISM: Artificial Sequence
225 <220> FEATURE:
226 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
227       IL-18 sequence has been replaced with Serine, the
228       Cysteine at position 68 has been replaced with
229       Aspartic acid, and the Leucine at position 144 has
-> 230 <223> been replaced with Cysteine.
232 <400> SEQUENCE: 7
233 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
234  1               5                  10                  15
235 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
236             20                  25                  30
237 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
238         35                  40                  45
239 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
240     50                  55                  60
241 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
242 65                  70                  75                  80
243 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
244                 85                  90                  95
245 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
246             100                 105                 110
247 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
248         115                 120                 125
249 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Cys
250     130                 135                 140
251 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
252 145                 150                 155
255 <210> SEQ ID NO: 8
256 <211> LENGTH: 157
257 <212> TYPE: PRT
258 <213> ORGANISM: Artificial Sequence
260 <220> FEATURE:
261 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
262       IL-18 sequence has been replaced with Serine, the
263       Cysteine at position 68 has been replaced with
264       Aspartic acid, Aspartic acid at position 157 has
-> 265 <223> been replaced with Cysteine.
267 <400> SEQUENCE: 8
268 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
269  1               5                  10                  15
270 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
271             20                  25                  30
272 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
273         35                  40                  45
274 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
275     50                  55                  60
276 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
277 65                  70                  75                  80
```

<220> <223>

Same error

Same error

The type of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

VERIFICATION SUMMARY DATE: 04/21/2004
PATENT APPLICATION: **US/10/823,964** TIME: 07:41:50

Input Set : **A:\Seqlist.txt**
Output Set: **N:\CRF4\04212004\J823964.raw**

L8 M:270 C: Current Application Number differs, Replaced Current Application Number
L60 M:259 W: Allowed number of lines exceeded, <223> Other Information:
L95 M:259 W: Allowed number of lines exceeded, <223> Other Information:
230 M:259 W: Allowed number of lines exceeded, <223> Other Information:
265 M:259 W: Allowed number of lines exceeded, <223> Other Information:
300 M:259 W: Allowed number of lines exceeded, <223> Other Information:
335 M:259 W: Allowed number of lines exceeded, <223> Other Information: